





FULLTON - STEAM BOAT NAVIGATION - NEW YORK 1813









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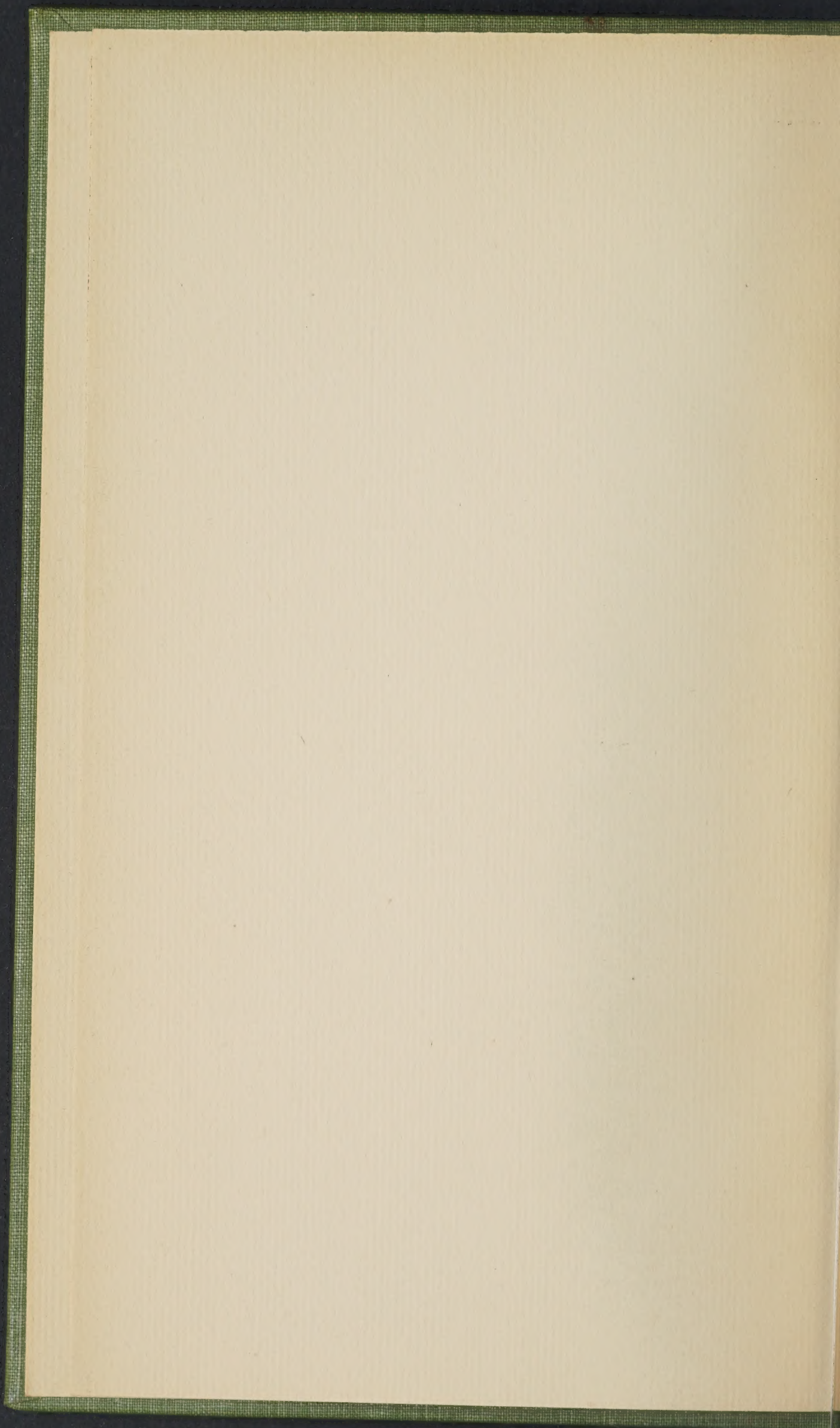
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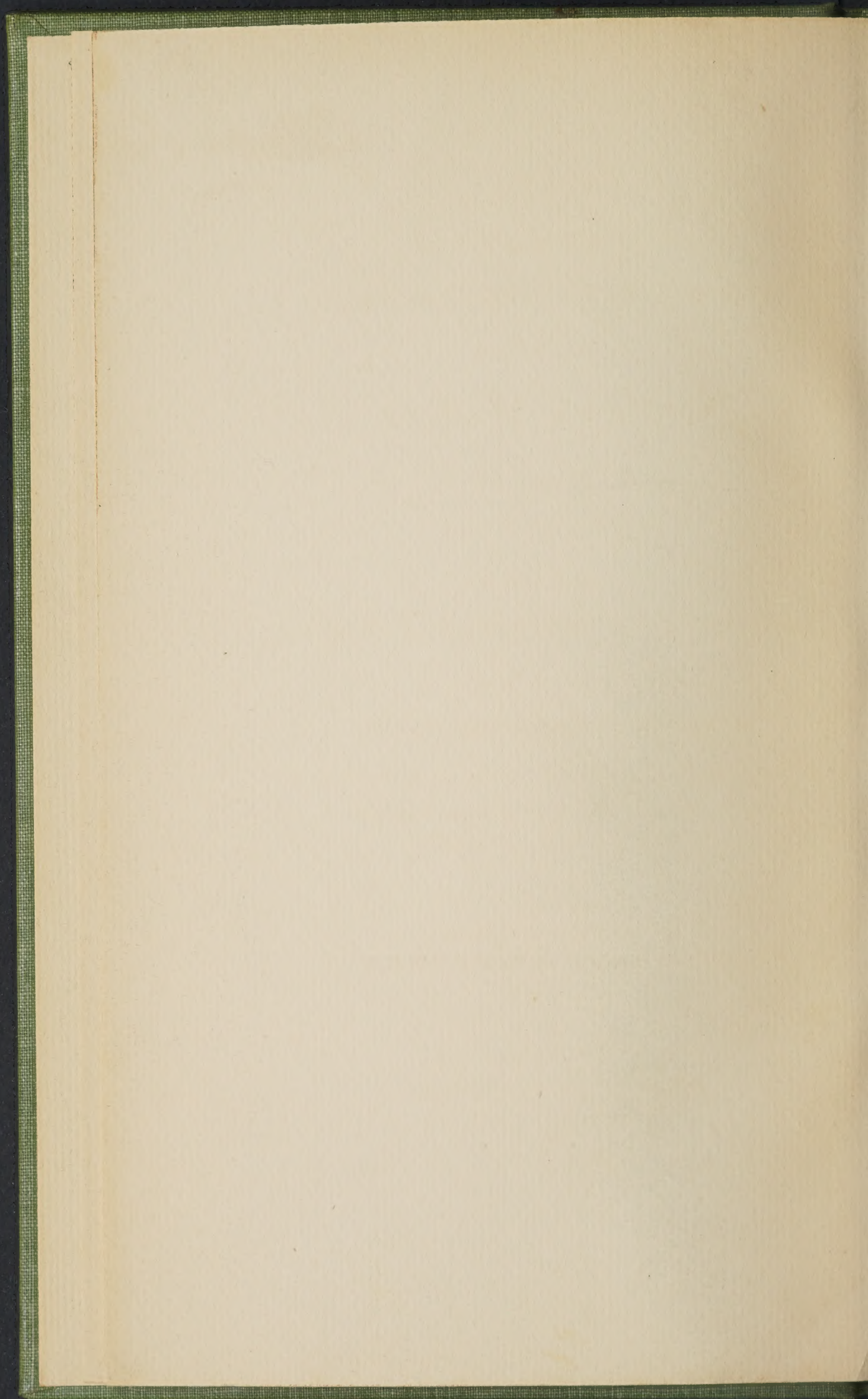














Report

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*G. Duval*

OF THE PRACTICABILITY OF

NAVIGATING WITH STEAM BOATS,

ON THE

*Southern Waters*

OF THE

UNITED STATES,

FROM THE

CHESAPEAKE TO THE RIVER ST. MARY'S,

FORMING PART OF A LINE OF

STEAM-BOAT COMMUNICATIONS,

NOW ESTABLISHING, FROM THE NORTHERN EXTREMITY OF  
LAKE CHAMPLAIN TO EAST-FLORIDA, A DISTANCE  
OF FIFTEEN HUNDRED MILES.

—\*—  
BY ROBERT FULTON,

FROM THE SURVEYS OF JOHN D. DELACY.  
—\*—

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## Report

ON THE PRACTICABILITY OF NAVIGATING, WITH STEAM-  
BOATS, ON THE SOUTHERN WATERS OF THE UNITED  
STATES, FROM THE CHESAPEAKE TO THE  
RIVER ST. MARY'S.



THE importance of cheap and rapid communication with the far separated districts of a great nation, has ever been sensibly felt, and eloquently recommended by the best writers on political economy. Adam Smith, in his *Wealth of Nations*, remarks, that by means of the canals and water conveyance of China, that empire circulates more commerce than all Europe ; which is the more probable, if the estimate of Sir George Staunton may be credited, that her population amounts to three hundred millions, while that of Europe is little more than half the number.

The good roads which have been constructed in England during the last century, and the canals which have been made in thirty years, are among the principal causes of her present great wealth and power.

In the United States, cheap and rapid transport will draw forth the ponderous riches of the earth, and circulate our minerals for the benefit of the whole community. It will float the forests and products of the Western States to the sea coast, returning the necessities and luxuries from foreign nations to our interior. It will encourage manufactures by a cheap conveyance of raw materials ; promote and refine agriculture, increase population, and advance civilization throughout the whole range of our country—by giving



to our citizens an easy intercourse, it will assimilate their customs, manners, and opinions, and bind them together as much by their habits as their interests.

To effect and maintain so happy a union, we have the fairest prospect, in our numerous rivers, which extend thousands of miles through regions now cultivating to those not yet inhabited—And the modern art, of navigating vessels by the power of Steam, furnishes a sure means for converting those rivers into lines of intercourse of the first importance. There is no country whose waters are so favorable to the application of this new art, as those of the United States. The Rhine, Danube, Elbe, Oder, Wolga, or Oby, give not the advantages of our Ohio, Mississippi, Missouri, Arkansa, Mobile, Hudson, or the lakes, rivers and bays from the North of Vermont to East Florida, (a distance of fifteen hundred miles) or from Pittsburgh to New-Orleans, (a distance of about two thousand miles) which latter line will be compleated with Steam Boats in 1814. But the time will come, when the Mississippi, receiving the trade of the Missouri, there will be an uninterrupted Steam Boat navigation, from cities whose scites are not yet fixed, to New-Orleans, (a distance of more than three thousand miles.)

And we may now contemplate a period, which is not distant one hundred years, when these States will exhibit a census of one hundred millions of souls; and, an interior commerce extending over a greater range of country than any other nation in the world.

In Asia and Europe the greatest extent of river and canal navigation is from Canton to Peking, (in length eight hundred and twenty-five miles) and of river and road conveyance from Astrachan on the Caspian Sea up the Wolga to St. Petersburg, (a distance of fifteen hundred miles.)

In this work, which is of incalcuable public importance, I hope my countrymen, and particularly Congress and the Le-



gislatures of each state, will take an active interest. As a political economist, I have presented this slight sketch of our future prospects, arising from the establishment of Steam Boats on all practicable waters. I will now confine myself to their introduction on the waters, from the Chesapeake to St. Mary's.

On an actual examination of the waters from the neighbourhood of Norfolk to St. Mary's, and a measurement of the different portages and shoals, the following results have been ascertained :—

|  | <i>Miles.</i> |
|--|---------------|
| The portage between the sound, north of Cape Fear River, and that river, - - - }     | 1 1-8         |
| The portage south of Smithville, between Lockwood's Folly and Elizabeth River, - - } | 1             |
| The portage from Fultonville, at Little River Inlet, and the river Wacamaw, - - }    | 3 6-8         |
| Total of the portages to be cut, - - -   | <hr/> 5 7-8   |

Which it is presumed could be done for \$3500 a mile, equal to \$20,459.

The only remaining obstruction of any importance in this line, lies about three miles north of New River inlet, called the Haul-over, for a full description of which, and of some other shoals, oyster rocks, and narrows that require clearing, I refer the reader to a summary of the Journal kept by Mr. De Lacey, which is hereunto annexed; by which it will appear, that the perfecting those minor clearings and improvements would not in all probability exceed \$20,000, making the whole sum to clear and complete the line amount to about \$40,562.

As the summary will shew, how all the advantages of a coasting trade, from the neighbourhood of Norfolk to East Florida, may be enjoyed without the risk of a sea voyage, or draining the states, through which it passes of their wealth, to enrich foreign merchants, I shall make



a few observations on the great rivers and principal waters of North Carolina.

The many great rivers, and their tributary streams, which extend their branches through almost every part of that state, and its most fertile lands, require but little improvement or expenditure, to give to every inhabitant of the state the benefit of a water conveyance, whereby he could always command the highest price for the produce of his industry.

In that state, Ocracock inlet demands the most immediate attention. By its geographical position, it must become a place of the first importance to the state, as a mart of trade, both export and import, for the trade of Currituck, Albemarle, and Pamptico Sounds; and that of their tributary streams, the Back River, Black River, the Elizabeth, the Pasquitank, Perquimans, Chowan, Roanoke, Alligator, Pungo, Tar, Neuse & Trent rivers, must all flow to it. These rivers meander thro' the most fertile lands in the state, and, in some instances, extend into and interlock with the waters of Virginia. The Roanoke particularly, draws nourishment from Virginia, and will carry part of the trade of that state. The necessary, but not numerous improvements which the waters above named require, would, if effected, pour the riches of an extensive back country to Ocracock, and thus invite the residence of rich and enterprising merchants, whereby its harbour, at present of the second order, would be improved, and from whence the produce of foreign markets would be furnished at a reasonable price, and the farmer receive the surplus amount of his produce in cash.

The Cape Fear river, is next to be spoken of, as belonging to North-Carolina. This river would, with very little improvement, afford an excellent navigation from its mouth to Averysburg, at all seasons of the year; at present it is navigated by boats of considerable burthen. It will probably be a work of time, to make its head branches navigable; but, as it nearly intersects the state, and waters a portion of



country, rich and abundant in productions, every reasonable exertion to improve the navigation to the utmost extent will be good policy. There are two ports, that of Wilmington, some distance up the river, and Smithville near its mouth, to which vessels of a very considerable draft of water can have free access at all times.

~~The~~ Little River Inlet, is mentioned in the summary, *as are* ~~also~~ some other rivers of minor importance; I shall therefore call the reader's attention to the Pedee river in South-Carolina, which is navigable to the falls above the Cheraws, which river flows with an equal and gentle current, collecting the cotton, the grain, and other valuable productions of that fruitful district, and depositing them in Georgetown; at which place, it unites its waters with those of the Wacamaw River, Sampit Creek, and Black River, forming Winyaw Bay.

The Santee river deserves notice, as there is a canal cut from it to Cooper river. The head of this river is in North-Carolina, under the name of Catawba, which is there a stream of such importance, that measures are taken by the inhabitants to make it navigable.

The great difficulty hitherto experienced, in accommodating boats to navigate rivers that have shoal waters and strong currents, and where sinuosities presented the boats, as frequently to adverse as favorable winds, causing much delay and disappointment, are now happily overcome by the discovery of Steam Boats. Their small draught of water, and the rapidity with which they move—their safety and certainty as to the time of completing the voyage and the prompt delivery of their cargo—and, also, the convenience and comfort which they secure to passengers, are irresistible reasons for preferring them to any other mode for navigating on fresh water rivers, and in many instances, *particularly for passengers*, on tide waters. Their success has been so satisfactory, that it is now contemplated



to carry the mail, in all cases where the circumstances are such as to enable the boat to arrive periodically. In war, the rapid transport of troops without fatigue, and also of their munitions in a fixed time, at a moderate expence, are considerations of primary importance to the public ; for in military affairs, the quick movement of troops adds much to their power, and renders them more formidable to the enemy.

To these observations, the reader who may be acquainted with the exact locality of any part of this line, will have the goodness to unite his own reflections, and in all cases endeavour to promote the public interest, by pointing out means for removing obstacles. The following details will give him all the information which has hitherto been presented to me, being the result of four month's examination on the several waters contemplated—from the Chesapeak to St. Mary's.

It appears, that the navigation from St. Mary's to Charleston, admits of vessels drawing six feet of water, but some doubt having existed, whether the Wapoo cut or canal would admit the passage of large boats, it was examined by Paul Hamilton, Morton A. Waring, and Nathaniel Ingraham, Esquires, and Commodore Dent, with Mr. Delacy, who found sufficient water for the purposes required. A similar but stronger doubt was also entertained of the sound North of Cape Fear, which being examined by Mr. Delacy, accompanied by Robert Cochran, Esq. Collector of Wilmington, R. Bradley, Esq. Cashier of the Cape Fear Bank, with Messrs. Levy and Garnier, was found to have water enough for Steam Boat navigation.



# Summary of the Survey.

## OBSERVATIONS.

## REMARKS.

Charleston, run from due E. to Crab Bank Shoal, close to the point of which the channel runs.

This is an open run towards Hibbin's Ferry, and thence to the cove at the island.

Continue on Easterly to Sullivan's Island Cove.

Course on from thence through the narrows, E. by N. There are two large forks, one as of a river running North.

Course to the N. end of Sullivan's Island, E. by N.

Here the meanders of the channel are great, and some of the angles it forms so very acute, that it will require cutting; this no doubt the inhabitants of Charleston will do, as it is trifling, and in sight of their city. The water is sufficient here for all the purposes of inland navigation, with a very little clearing.

Long Island Channel, E.

False channel here, N.

Here is a most beautiful sheet of water for inland navigation, which continues for several miles.

Forks—course N. E. northerly, and E. & by N.

This is a fine sheet of water.

Forks—course N.

Here there is a branch or arm running E. that appears a cut off.

Course by the N. end of Long Island to Dewees's Island, N. W. for a short distance, and then N. by E. a broad sound.

Some of the land on Long Island appears high and rich; there are some small plantations in sight.

Course, N. N. E. some distance, then E. by N. Eastwardly and N. N. E.

At the bottom of this sound, bearing E. N. E. there appears a large plantation. Fine water.



## OBSERVATIONS.

Course, E. N. E. Bull's Island and the sea in sight.

Inlet from the sea, S. E.

Course generally to the S. W. end of Bull's Island, E. by N. Northerly.

Bull's Bay, seawards E. 1-2 N.

Course N. trending Eastwardly, and becoming more E. as you advance, keeping on the W. side of a small island that bears due W. from the point of marsh.

The extreme south point of land forming the N. side of Bull's Bay, bears from the above small island N. E. by E. 1-2 E. with trees on it.

Course run by boats at present N. N. E. hugging the marsh close along to Dulcamp creek.

Course by Matthews', the shortest way to Santee River, N. N. E. up Dulcamp creek to the first bend, bearing E. N. E.

Course from Matthews' by Five Creeks, through Oyster Bay to Bowman's Windmill on Cape Roman, N. E. Eastwardly.

Course S. E. side of the small island, lying abreast the windmill.

## REMARKS.

Fine water, but meandering, however the channel is staked off to the broad sound leading to the N. end of Bull's Island.

Here is sufficient water, but as there may be some danger apprehended in going out in this way; there is a creek called Mulberry creek, that with a very little clearing could be made navigable, that communicates with the waters of the sound W. & N. W. of Bull's Bay.

Seewee Inlet puts into Bull's Sound from Bull's Bay, behind a small low island, and is by much the shortest and safest for small craft, as it does not expose vessels much either to the tempests of that coast, or to the enemy.

I went the course by Matthews's, and was informed by the pilots, that the outside or main sound was best for large vessels, but as Steam Boats should go at all times, I preferred examining that run.

There is another called Oyster Bay, W. of, and parallel with this one. The intersection of creeks are so numerous, that a good pilot is not only indispensable, but the true channel should be marked.

Here I will make this general remark, as it may be found useful, that all the false creeks and branches trend Westwardly.



## OBSERVATIONS.

## REMARKS.

Course North of the windmill  
N. E. by N.

There is a creek runs very close to the windmill, in which there is very bold water, through which the largest vessels of the Santee can go.

Course, E. by S. trending Eastwardly through fine bold water to the S. end of the Cassino cut.

There is an inlet S. S. W. of Cassino, through which large vessels go to sea from the sound.

Course, through the Cassino, N. E. by E. turning Northerly in a short reach.

Course to the Horns, N. N. E.

The inlet from the sea to the Horns, bears E. by N. distant 3-4 of a mile, but is very narrow and well secured from storms.

Course from the Horns, N. up a creek that sets in at two stakes at a small island in the entrance.

The channel is on the E. side of the island.

Course, N. E. to Alligator creek.

There is an island within the creek, on both sides of which there is a good channel.

Course, nearly E. N. E. & N. Eastwardly, to S. Santee.

Course to Four Mile Creek from Alligator creek, N. W. by W.

Four Mile Creek is about 36 feet wide at the entrance, and overhung with weeds on its margin. At General Pinckney's landing, it is quite shoal at low water; by cutting 1050 feet through Mr. Manning's land, both ends of this creek would be connected so as to afford an excellent navigation.

Course of Four Mile Creek, about N. E.

Pleasant Creek, in South Santee, lies West of Four Mile Creek, and turning Northerly communicates with Six Mile Creek, and affords a very good navigation at all times.



## OBSERVATIONS.

## REMARKS.

Course from the W. end of Four Mile Creek, to the S. end of Musquito Creek, on the S. side of North Santee, E. a little Northerly.

Course of the South entrance of Musquito Creek, N. by E.

Course of the creek generally to its N. end, or entrance into Winyaw Bay, is nearly N. from whence George Town bears N. W. Wacamaw River, N. W. by N. mouth of Sampit Creek, N. W. and the main Pedee, N. by W.

Course from the mouth of Sampit Creek to George Town, W. a little S.

The East side of George Town, is conveniently situated for the trade of the Peedee and Wacamaw rivers; though the water is shoal, it can be improved by running out wharves or cutting canals; there are at present two small canals that serve as landing places, in which there is usually 3 1-2 feet water, and sometimes more.

Course of the Wacamaw, N. N. E. Butler's Island, N. N. E.

Course of the Wacamaw, N. E. by E.

Course of Wasso Creek, N. W.

Course of the river, N. by E. to three branches; the main branch of which is the course until it makes N. N. E. from thence the course is N. by E. Eastwardly.

Musquito Creek, winds in a very extraordinary manner throughout the whole of its course, a distance of near 25 miles; the breadth of the neck of land through which it passes does not exceed six miles in one place, where its curve makes a distance of four or five miles; it measures but 82 paces from bank to bank. Where the tides meet, there are very soft mud-shoals at low water that can be cleared with little expence.

There is within the N. entrance of this creek, a cut, that if completed, would shorten the distance and facilitate the navigation.

Here they pass Mother Bush's Island, and several fertile rice islands between that and Wasso Creek; the channel of which is generally best on the Eastern side.

This creek leads from the Wacamaw to the Peedee.

The channel to His Excellency Gov. Alston's seat at the Oaks, and to Major Ward's, is on the S. W. side of the river.



## OBSERVATIONS.

## REMARKS.

Course to Weston's Bluff, N.  
N. by N.

This is the first high bluff  
that presents itself on the S. E.  
side of the river in ascending.

Course from Weston's Bluff,  
N. E. Northerly.

Course N. N. W. along the  
river.

The numerous forks and  
arms to this river, require a  
good pilot, or the channel mark-  
ed with finger posts.

Course at the mouth of Big  
Bull's Creek, N. E. ~~by~~ North-  
erly.

This creek communicates  
with the Big Pedee, and is navi-  
gable for vessels of considera-  
ble burthen.

Course to the Needles Eye,  
about N. and by W. generally ;  
running by several creeks in  
the distance.

This is at present a narrow  
passage of about 25 feet in  
length, which reduces the dist-  
ance 5 1-2 miles.

Course Northerly to Conway-  
borough ; continues so to its  
source, and nearly parallel to  
the sea.

There are such a number of  
lakes that empty into this ri-  
ver, and it meanders so extreme-  
ly, that it will be necessary to  
put up posts to guide the navi-  
gator.

The river in its present state, and for the objects re-  
quired, is not navigable for large boats farther than Stanley's  
landing, near the Division line between the states of South  
and North Carolina ; it being shoal in many parts from  
Council Bluff upwards, and there being a number of trees  
fallen in the river, which it will be the interest of the owners  
of the soil to remove ;—for, the river being made navi-  
gable, their property will increase in value, and reward their  
labor.

The river is beautiful, and from Council Bluff downwards  
has sufficient water ; the current gentle throughout, being  
in general not more than 3-4 of a mile per hour. The shoals  
are formed where the tide spends itself, and where the trees



lying across accumulate the sand; but on removing them, which can be done at a small expence, the shoals will disappear. At the time of this survey, the Waccamaw was lower than it had been for many years, yet there was generally a good depth of water found.

The portage intended to connect the Waccamaw River and Little River Inlet, at Fultonville, must run between Stanley's landing, and the line towards either the bank at Fultonville, near Mr. Jeremiah Varrene's, or Mullet Creek. The ground being firm, and on a low level, will afford an excellent road  $3\frac{3}{4}$  of a mile in length, in which situation a canal could be cut for a few thousand dollars, to answer every purpose required.

Little River Inlet, is a safe entrance and harbor, with a bold shore down to the bar; there is twenty feet water inside, and fourteen at low water on the bar, it being situated on the South of North-Carolina Sounds; there is a prospect of its becoming a place of importance, in consequence of the goodness of the harbor, its contiguity to the sea, and the advantages it will have so soon as the short canal above spoken of shall be made.

I cannot with any certainty say, from what particular part of Little River Inlet, the majority of the commissioners, who may be appointed, shall direct the canal to be cut; but I should prefer the confluence of Mullet Creek with the Inlet, or Little River, where there is excellent spring water—there is also good limestone water on the Waccamaw.

## OBSERVATIONS.

## REMARKS.

Course of Little River, to the old bar, from the forks, S. S. E.

Course to the new bar, E. by S.

Course from the bar above the sound, N. E. by E.

There are a few shoals and narrows that will cost but a very trifling sum to clear, they are either mud or oyster rocks, the points of the bends in the narrows must be cut.



## OBSERVATIONS.

## REMARKS.

Course generally N. something Eastwardly to Lockwood's Folly Portage.

The portage at Lockwood's Folly, is but one mile from Moore's Canal to the nearest landing on Elizabeth River, in which there is bold water and a good navigation to Smithville, and from thence to Wilmington.

The navigation of the Sounds Northerly from Lockwood's Folly to Smithville, and through Cape Fear River to a creek that heads near Maxwell's landing, on the Sound, from the head of which creek to the Sound North of Cape Fear River, at the haul-over, the portage is but 1 1-8 mile.

The course from hence is generally North, with but little variation, and the water good in general, with the exception of some mud shoals, oyster rocks, and narrows as in the other Sounds, and of a such a trifling nature, that it will cost but little to remove them; if the channel be marked off, it will render it easy to navigate.

As the course of the North-Carolina Sounds are generally North to the Virginia line, it is unnecessary to give the bearings. The only remaining obstruction of any importance on this line from St. Mary's, is about three miles North of New River, called the Haul-over; these are two shoals, near each other, the most Southwardly is about 250 yards in length, and has only 26 or 30 inches water at high tide—the second, or more Northerly one is about 320 yards, with between 30 or 40 inches of water at high tide. This was formerly the worst of the two, but a ditch or drain being cut through it by the neighboring farmers, it has become a tolerable good channel at high water for narrow vessels, and is preferable to the one South. From the North end of this cut, all obstructions to the navigation cease, and there is a fine bold water along the sounds to the Virginia line, except in Bogue sound, where is but from 3 to 4 feet water.



From Currituck Sound, by Nott's Island to North landing, on Backwater River, or to Pocottee, there is excellent water ; and the head of Pocottee approaches to within 7 1-2 or 8 miles of the head waters of Elizabeth River, as does North landing within 10, either of which routes would be easily cut ; The soil is level, firm, and well adapted to canals. In Currituck sound are two shoals, the one S. and the other N. of the narrows, on which there is but about 4 feet water.

The distance from North Landing to Norfolk, is about 20 miles, over a good and level road, equal to any in the world ; and from Pocottee to Norfolk. a road equally as good could be made of not more than 17 or 18 miles in length, on either of which passengers and produce could be transported with facility to Norfolk, and the waters of the Chesapeake.

This report, made from a survey of not more than four months on a long range of operations, cannot be expected to be minutely correct. To amend what may be deficient, I submit thus to the public, what has been collected ; and particularly to the gentlemen who are immediately interested in the establishment of Steam Boats, for which boats, it is necessary in all places, to have from 3 to 4 feet of water, from 50 to 80 feet wide.

The several states through which the Steam Boats are to pass, have a vital interest in their success ; and the individuals, through whose property they navigate, will be materially benefited by the increased value of their property. Hence, where all are interested, I confidently hope, for every friendly aid to accomplish those useful works.

ROBERT FULTON.







